

High-Mu Twin Triode

9-PIN MINIATURE TYPE

For Use in Mobile-Communications Equipment
Operating from 6-Cell Storage-Battery Systems

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (*Absolute-Maximum Values*):

Voltage (AC or DC)^a 13.5 ± 1.5 volts

Current at heater volts = 13.5 0.150 amp

Peak heater-cathode voltage (Each unit):

Heater negative with
respect to cathode 100 max. volts

Heater positive with
respect to cathode 100 max. volts

Direct Interelectrode Capacitances (Approx.):

	<i>Without External Shield</i>	<i>With External Shield^b</i>	
Grid-Drive Operation:			
Grid to plate (Each unit) . .	1.6	1.6	μμf
Grid to cathode and heater (Each unit)	2.5	2.5	μμf
Plate to cathode and heater (Unit No.1)	0.45	1.2	μμf
Plate to cathode and heater (Unit No.2)	0.38	1.3	μμf

Cathode-Drive Operation:

Cathode to plate (Unit No.1)	0.2	0.18 ^d	μμf
Cathode to plate (Unit No.2)	0.24	0.2 ^d	μμf
Cathode to grid and heater (Each unit)	5	5 ^d	μμf
Plate to grid and heater (Unit No.1)	1.9	2.7 ^d	μμf
Plate to grid and heater (Unit No.2)	1.8	2.7 ^d	μμf
Heater to cathode (Each unit)	2.8	2.8 ^c	μμf
Plate to plate	0.24	—	μμf

Characteristics, Class A₁ Amplifier (Each Unit):

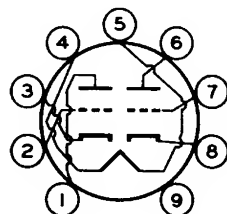
Heater Voltage	13.5	volts
Plate Supply Voltage	250	volts
Cathode Resistor	200	ohms
Amplification Factor	60	
Plate Resistance (Approx.)	10900	ohms
Transconductance	5500	μmhos
Plate Current	10	ma
Grid Voltage (Approx.) for plate $\mu_a = 10$. .	-12	volts



Mechanical:

Operating Position Any
 Type of Cathodes Coated Unipotential
 Maximum Overall Length 2-3/16"
 Maximum Seated Length 1-15/16"
 Length, Base Seat to Bulb Top (Excluding tip). 1-9/16" $\pm$ 3/32"
 Diameter 0.750" to 0.875"
 Dimensional Outline See *General Section*
 Bulb T6-1/2
 Base Small-Button Noval 9-Pin (JEDEC No.E9-1)
 Basing Designation for BOTTOM VIEW 9EP

Pin 1 - Plate of
 Unit No.2
 Pin 2 - Grid of
 Unit No.2
 Pin 3 - Cathode of
 Unit No.2
 Pin 4 - Heater
 Pin 5 - Heater



Pin 6 - Plate of
 Unit No.1
 Pin 7 - Grid of
 Unit No.1
 Pin 8 - Cathode of
 Unit No.1
 Pin 9 - Do Not Use

AMPLIFIER — Class A₁

Values are for Each Unit

Maximum Ratings, Absolute-Maximum Values:

PLATE VOLTAGE 330 max. volts
 GRID VOLTAGE:
 Negative-bias value 55 max. volts
 Positive-bias value 0 max. volts
 PLATE DISSIPATION 2.75 max. watts
 BULB TEMPERATURE (At hottest
 point on bulb surface) 180 max. °C

Maximum Circuit Values:

Grid-Circuit Resistance:
 For fixed-bias operation 0.25 max. megohm
 For cathode-bias operation 1 max. megohm

- ^a Heater will withstand momentary excursions from 11.0 to 16.0 volts.
- ^b With external shield JEDEC No.315 connected to cathode of unit under test except as noted.
- ^c With external shield JEDEC No.315 connected to ground.
- ^d With external shield JEDEC No.315 connected to grid of unit under test.

SPECIAL RATINGS AND PERFORMANCE DATA

Heater-Cycling:

Cycles of Intermittent Operation 1160 min. cycles
 This test is performed on a sample lot of tubes from each production run under the following conditions: Heater volts = 19.5 cycled one minute on and two minutes off; heater 135 volts negative with respect to cathode; all other elements

connected to ground. At the end of this test, tubes are tested for heater-cathode shorts and open circuits.

Low-Frequency Vibration Performance:

This test is performed on a sample lot of tubes from each production run under the following conditions: Units connected in parallel, heater volts = 13.5, plate-supply volts = 250, grid volts = -3, plate load resistor (ohms) = 2000, and vibrational acceleration = 2.5 g at 25 cps. In this test, the rms output voltage must not exceed 150 millivolts.

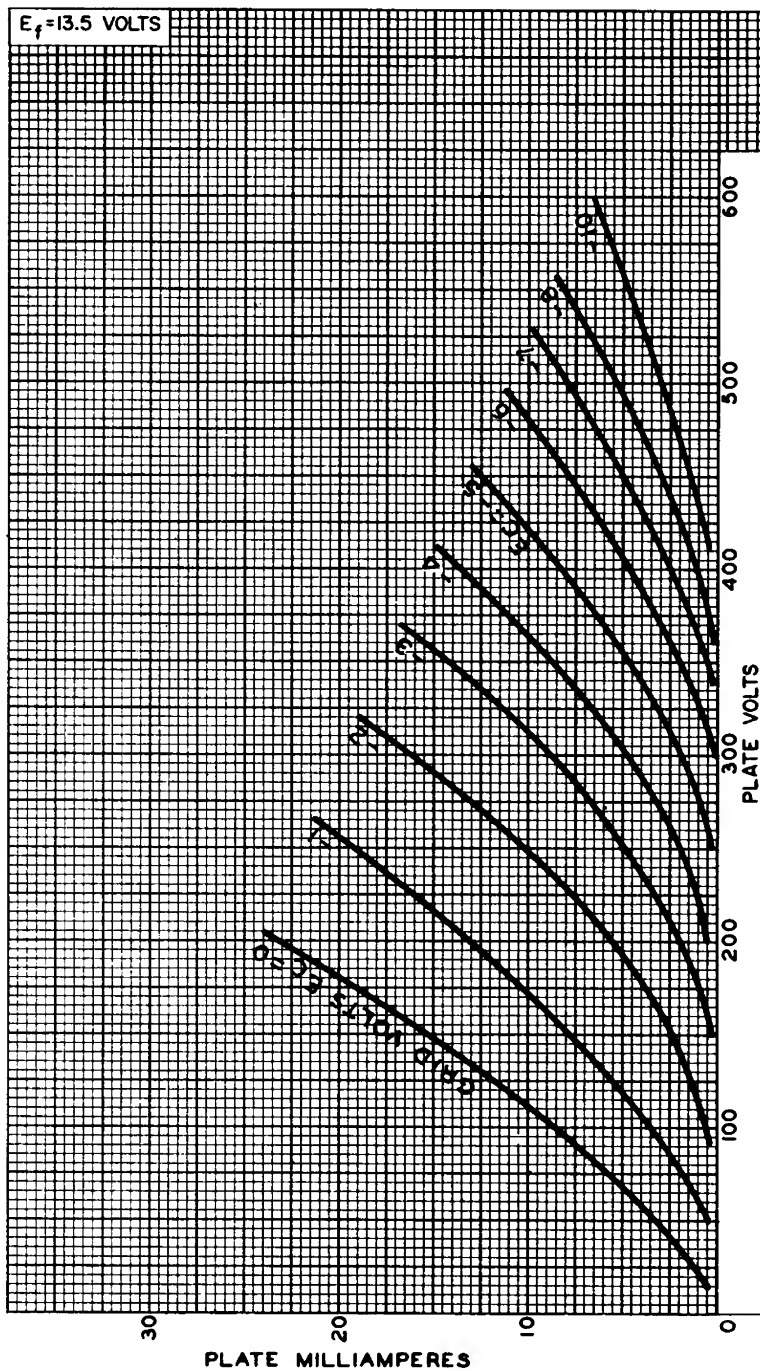
500-Hour Intermittent Life Performance:

This test is performed on a sample lot of tubes from each production run to insure high quality of the individual tube and to guard against epidemic failures. Life testing is conducted under the following conditions: Heater volts = 15.0 and maximum-rated plate dissipation.



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AVERAGE PLATE CHARACTERISTICS



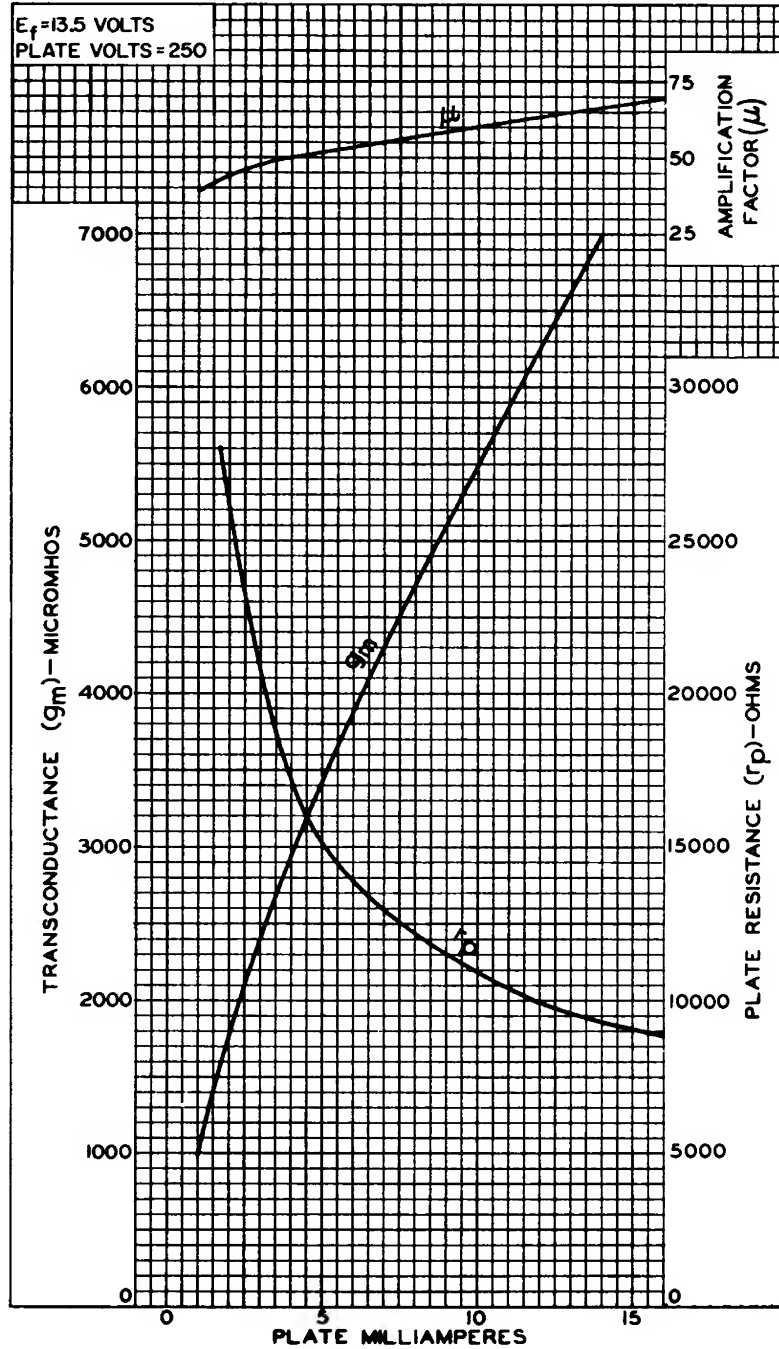
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Electron Tube Division

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AVERAGE CHARACTERISTICS



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